ISSN (print) 0093-4666 © 2012. Mycotaxon, Ltd. ISSN (online) 2154-8889

MYCOTAXON

http://dx.doi.org/10.5248/122.7

Volume 122, pp. 7–23 *October–December 2012*

Corticioid basidiomycetes on the bark of living trees from Porto Alegre, Brazil [1]

César Luiz M. Rodrigues† & Rosa T. Guerrero††

Programa de Pós-Graduação em Botânica, Departamento de Botânica, Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, Brazil

[2] Correspondence to *Vagner G. Cortez (cortezvg@yahoo.com.br), Juliano M. Baltazar (baltazarjmb@gmail.com*)

Abstract —The species of *Corticiaceae* s.l. growing on the bark of living trees in the Metropolitan Region of Porto Alegre, Rio Grande do Sul State, Brazil, were studied. *Dendrothele syspora* is described as a new species, based on morphology and development of spores, and the new combination *Dendrodontia bispora* is proposed. Five species of *Dendrothele* and one of *Xenosperma* represent new records for Brazil. Descriptions, illustrations, and an identification key are included.

Key words — *Aphyllophorales*, new taxa, systematics, wood decay fungi

Introduction

Corticiaceae s.l. includes lignicolous fungi with many species producing basidiomata that develop on dead branches or woody material lying on the ground. However, it also includes species that develop on bark of living trees. Corticioid species were first reported from Rio Grande do Sul State (Brazil) by Rick (1959). Some of his materials were reviewed by Hjortstam & Ryvarden (1982) and Rajchenberg (1987). Since then, only Maluf & Guerrero (1993), Nietiedt & Guerrero (2000), and Sobestiansky (2005) have contributed significantly to this mycota.

In this work we present and discuss species belonging to genera that occupy a specialized habitat, i.e., the exposed bark of living trees: *Dendrodontia* Hjortstam & Ryvarden, *Dendrothele* Höhn. & Litsch., and *Xenosperma* Oberw.

[1] From the PhD thesis by Rodrigues, who had almost completed this paper with Guerrero shortly before his untimely death. † Deceased, 18 December 2008. ††Deceased 28 February 2012

[2]The paper presented here was prepared for publication by Vagner G. Cortez and Juliano M. Baltazar.

Materials & methods

The species treated are part of a survey of *Corticiaceae* s.l. carried out in four hills located within 60 km of one another. Except for *Dendrodontia bispora*, which was collected in an urban park, all collections were gathered in native forests surrounding Porto Alegre municipality (Rio Grande do Sul State, Brazil) during 2001–04. The vegetation in the sampled areas consists of seasonal semi-deciduous forests with 10–20 m tall hygrophilous to mesophilous communities. Specimens, analyzed macro- and microscopically following usual techniques, are deposited in the herbarium ICN (Universidade do Rio Grande do Sul, Departamento de Botânica).

Taxonomy

Key to species of *Corticiaceae* s.l. on bark of living trees in the Metropolitan Region of Porto Alegre, Rio Grande do Sul, Brazil

1a. Hyphal system dimitic ..... ***Dendrodontia bispora***
1b. Hyphal system monomitic 2
2a. Cystidia present 3
2b. Cystidia absent 4
3a. Cystidia capitate ..... ***Dendrothele capitulata***
3b. Cystidia fusiform ..... ***Dendrothele alliacea***
4a. Basidiospores asteriform, with 3 or more projections 5
4b. Basidiospores different 6
5a. Dendrohyphidia present, hyphae 1.5–2 µm diam. ..... ***Dendrothele asterospora***
5b. Dendrohyphidia lacking, hyphae 2.0–3 µm diam. ..... ***Xenosperma murrillii***
6a. Basidiospores lageniform ..... ***Dendrothele syspora***
6b. Basidiospores spherical or subspherical 7
7a. Surface of basidiomata with projections ..... ***Dendrothele griseocana***
7b. Surface of basidiomata smooth 8
8a. Basidiospores >15 µm diam. ..... ***Dendrothele mangiferae***
8b. Basidiospores <15 µm diam. ..... ***Dendrothele incrustans***

Descriptions

Dendrodontia bispora (Burds. & Nakasone) Guerrero & C.L.M. Rodrigues, **comb. nov.** PLATE 1

MYCOBANK MB 564698

≡ *Dendrothele bispora* Burds. & Nakasone, Mycotaxon 17: 253, 1983.

≡ *Brunneocorticium bisporum* (Burds. & Nakasone) Nakasone, Botany 87: 879, 2009.

= *Brunneocorticium pyriforme* Sheng H. Wu, Mycologia 99: 306, 2007.

BASIDIOMATA effuse, forming confluent patches 4 × 1 cm, 50–100 µm thick, closely adnate; HYMENIAL SURFACE smooth; MARGIN abrupt, pubescent, sometimes with a dark brown line along the edge.

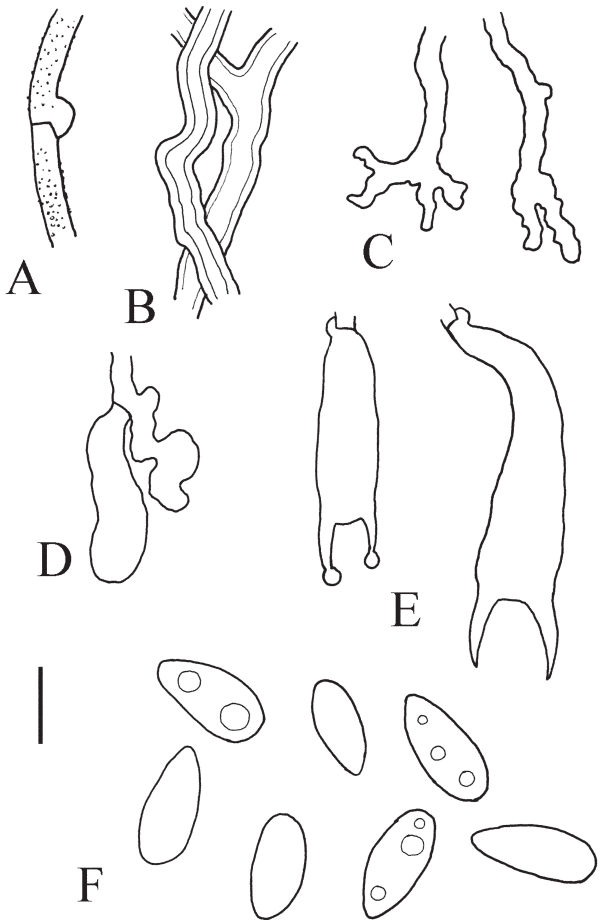

Plate 1. *Dendrodontia bispora*.
A: generative hypha. B: skeletal hyphae. C: dendrohyphidia. D: young basidium.
E: mature basidia. F: basidiospores. Scale bar: 10 μm.

Hyphal system dimitic; generative hyphae thin-walled, 3–4 μm in diam., finely encrusted, clamped; skeletal hyphae thick-walled, slightly brownish, sometimes flexuous and branched. Cystidia lacking; dendrohyphidia branched, tortuous, 2–3 μm in diam. Basidia clavate, 25–40 × 7–10 μm, thin-walled, clamped at base, with 2 sterigmata, 8–10 × 2–3 μm; basidiospores ellipsoid to ovoid, smooth, thin-walled, sometimes with droplets, 13–16.5 × 6–8 μm.

Distribution — China, Guadeloupe, Mauritius, Réunion, Taiwan, USA (Nakasone et al. 2009), and southern Brazil.

Specimens examined — **BRAZIL. Rio Grande do Sul:** Porto Alegre, Parque Farroupilha, on *Britoa guazumifolia* (*Myrtaceae*), 03.XII.1992, leg. R.T. Guerrero (ICN 97664); 12.X.2001, leg. R.T. Guerrero (ICN 102781); 31.III.2004, leg. R.T. Guerrero (ICN 102780).

Remarks — *Dendrodontia* was described based on a dimitic hyphal system with branched brownish skeletal hyphae and the presence of hyaline dendrohyphidia as main features (Hjortstam & Ryvarden 1980). Burdsall & Nakasone (1983) described *Dendrothele bispora* with a dimitic hyphal system, emphasizing its brownish skeletal hyphae as unique in the genus.

In their study of *Dendrothele*, Boidin et al. (1996) suggested excluding *D. bispora* from the genus based on its dimitic hyphal system and suggested its placement in *Dendrodontia*. Recently, Nakasone et al. (2009) transferred this species to *Brunneocorticium* Sheng H. Wu within the euagarics clade, reducing *B. pyriforme* to synonymy. Larsson (2007) and Wu et al. (2007) placed *Dendrodontia* in the polyporoid clade, but Wu et al. (2007) included only one unidentified specimen of *Dendrodontia* in their analyses.

Considering that *Dendrothele bispora* does not agree in important features with the concept of *Dendrothele* and that sequences of more specimens of *Dendrodontia* spp. (particularly of the type species *D. bicolor* (P.H.B. Talbot) Hjortstam & Ryvarden) are needed to assess the phylogenetic relationships of that genus, we prefer to transfer the species to *Dendrodontia* based on morphological evidence.

Dendrothele alliacea (Quél.) P.A. Lemke, Persoonia 3: 366, 1965. Plate 2

Basidiomata resupinate, white to ochraceous, smooth, pruinose under the lens, 120–150 µm thick, in rounded patches less than 1 cm in diam., sometimes confluent.

Hyphal system monomitic; generative hyphae irregular, 1–3 µm in diam., straight, clamps somewhat difficult to see. Leptocystidia numerous, fusiform 20–32 × 8–12 µm, slightly thick-walled ca. 1 µm thick, sometimes bearing an apical filamentous appendix; dendrohyphidia slender 1–2 µm wide bearing short branches and covered by crystals. Basidia clavate, 37–42 × 6–7 µm, tapering towards the base, clamps hardly visible, with four sterigmata, 4.5–7 µm; basidiospores ellipsoid, smooth, somewhat thick-walled, 9–13 × 5–7 µm, sometimes with granular content, with distinct apiculus, IKI–.

Distribution — Canada, South Africa, USA (Lemke 1964), Europe (Bernicchia & Gorjón 2010), Russia (Ghobad-Nejhad 2011), Uruguay (Hjortstam & Ryvarden 2007), and southern Brazil.

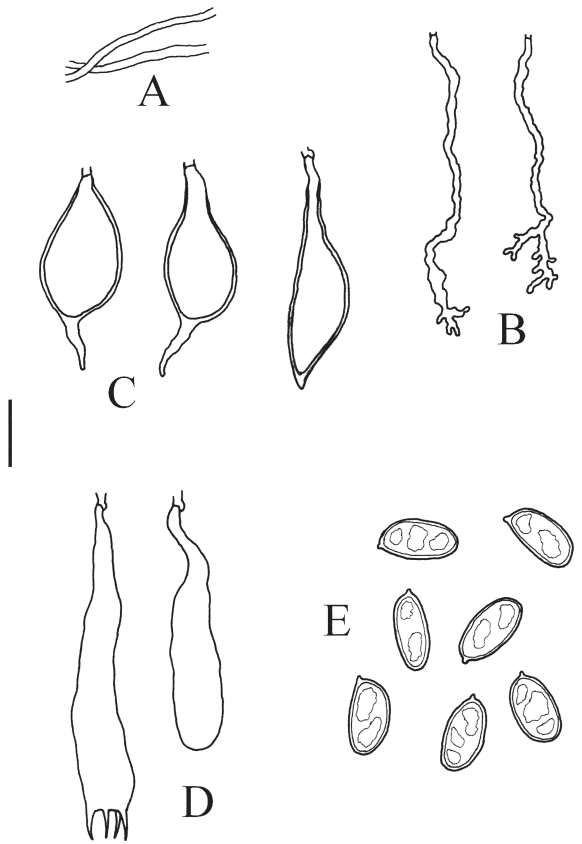

Plate 2. *Dendrothele alliacea*.
A: generative hyphae. B: dendrohyphidia. C: leptocystidia. D: mature and immature basidia. E: basidiospores. Scale bar: 10 μm.

Specimens examined — **BRAZIL. Rio Grande do Sul State:** Guaíba, Morro São Maximiano, 09.XII.2003, leg. C. Rodrigues 989 (ICN); Sapucaia do Sul, Morro Sapucaia, 18.XII.2003, leg. C. Rodrigues 1018 (ICN).

Remarks — Numerous fusiform leptocystidia are noticeable in this species. They are also found in *D. acerina* (Pers.) P.A. Lemke, from which *D. alliacea* differs by its ellipsoid spores. Our specimens have basidiospores that are a bit smaller than those mentioned by Boidin et al. (1996) but similar to the dimensions reported by Eriksson & Ryvarden (1975).

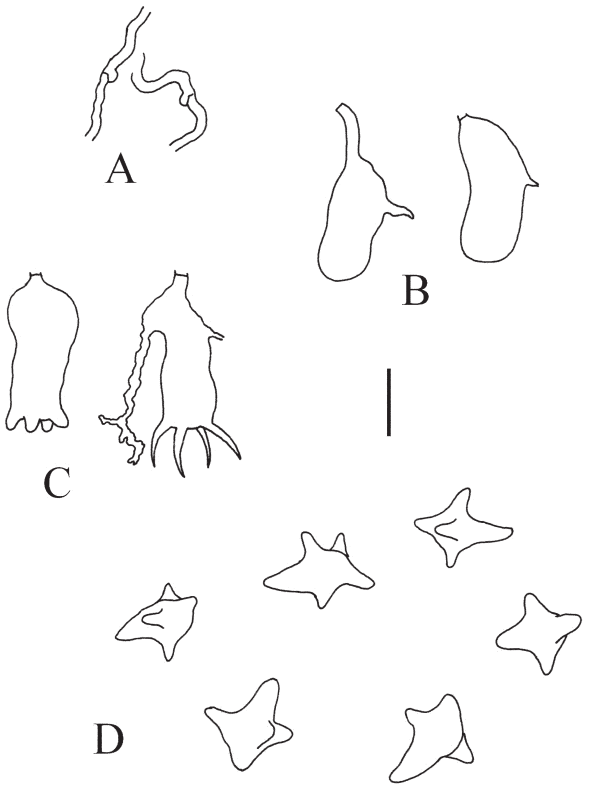

Plate 3. *Dendrothele asterospora*.
A: hyphae. B: young basidia. C: mature basidia. D: basidiospores. Scale bar: 10 µm.

Dendrothele asterospora Boidin & Lanq., Bull. Soc. Mycol. Fr. 112: 94, 1996.Plate 3

Basidiomata white to cream, in rounded patches ca. 0.5 cm wide, 40–50 µm in vertical section, covered by crystals.

Hyphal system monomitic; generative hyphae slender, tortuous, 1.5–2 µm wide, clamps difficult to see. Cystidia lacking; dendrohyphidia shortly branched. Basidia cylindric to urniform, 17–21 × 7–8 µm, frequently bearing a projection that extends as a hypha, with four sterigmata 6–7 µm long; basidiospores asteriform with 5 tips, 10–16 µm between the opposite tips, thin-walled, IKI–.

Distribution — Central African Republic, Réunion (Boidin et al. 1996, the latter sub aff.), and southern Brazil.

Specimen examined — **BRAZIL: Rio Grande do Sul State**: Sapucaia do Sul, morro Sapucaia, on *Cabralea canjerana* (*Meliaceae*), 17.IV.2003, leg. C. Rodrigues 755 (ICN).

Remarks — This species is similar to species of *Xenosperma* because of the basidia with lateral projections that resemble pleurobasidia, and pluriapiculate basidiospores, but the presence of dendrohyphidia, chalky consistency and habit points towards its placement in *Dendrothele*. This is the first report of *D. asterospora* since its original description.

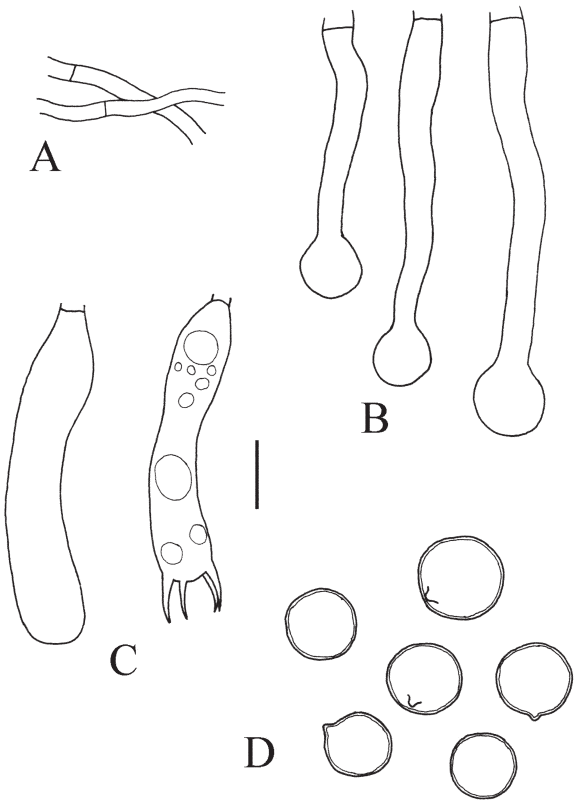

Plate 4. *Dendrothele capitulata*.
A: hyphae. B: cystidia. C: basidia. D: basidiospores. Scale bar: 10 μm.

Dendrothele capitulata Boidin & Lanq., Bull. Soc. Mycol. Fr. 112: 99, 1996. Plate 4

Basidiomata white to pale salmon, in patches, isolated or confluent, with a calcareous consistency, fragile and friable, often covered by cristals.

Hyphal system monomitic; generative hyphae 2–3 μm wide, without clamps. Cystidia lacking; dendrohyphidia irregularly branched; leptocystidia capitate, numerous, stem 3–4 μm in diam. and spherical apex 7–9 μm in diam. Basidia utriform, 40–50 × 8–10 μm, with four sterigmata,

7 µm long; BASIDIOSPORES spherical, some subspherical, 8–12.5 µm in diam., thick-walled, smooth, with a distinct apiculus, IKI–.

DISTRIBUTION — Guadeloupe and southern Brazil.

SPECIMENS EXAMINED — **BRAZIL: RIO GRANDE DO SUL STATE:** Guaíba, Morro São Maximiano, on *Luehea divaricata* (*Malvaceae*), 30.I.2003, leg. C. Rodrigues 687 (ICN); 13.V.2003, leg. C. Rodrigues 783 (ICN).

REMARKS — This species is easily recognized by its large capitate cystidia and spherical spores as described and illustrated by Boidin et al. (1996). This is the second record since its original description.

Dendrothele griseocana (Bres.) Bourdot & Galzin, Bull. Soc. Mycol. Fr. 28: 354, 1913 ["1912"]. PLATE 5

BASIDIOMATA white to ochraceous, effuse, sterile papillae visible under the lens, 40–60 µm long and distant 100 µm from each other.

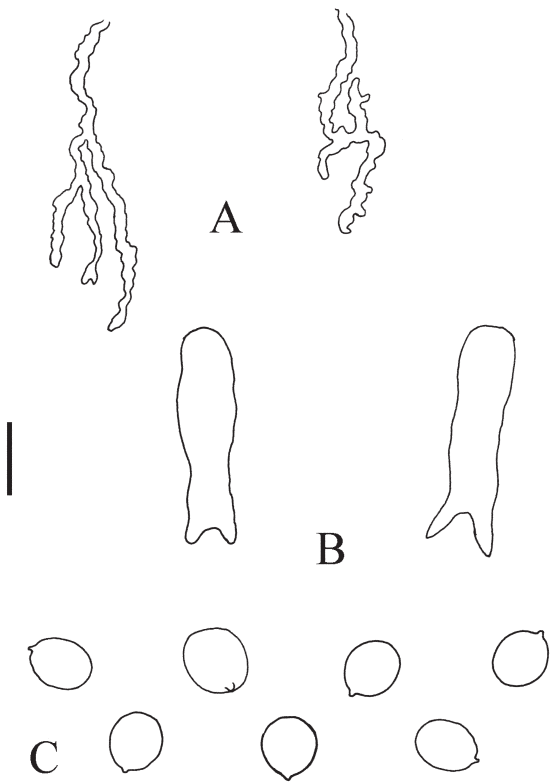

PLATE 5. *Dendrothele griseocana.*
A: dendrohyphidia. B: basidia. C: basidiospores. Scale bar: 10 µm.

Hyphal system monomitic; generative hyphae hardly observed, tortuous, thin-walled, clamps difficult to see. Cystidia lacking; dendrohyphidia numerous, richly branched, covered by crystalline matter. Basidia clavate when young, 25–30 × 6–7 µm with a medial constriction at maturity, with 2 sterigmata; basidiospores ellipsoid to subspherical, smooth, slightly thick-walled, 8.5–10 × 7–9 µm, IKI–.

Distribution — Canada, USA (Nakasone 2006), Europe (see Bernicchia & Gorjón 2011), Mexico, Uruguay (Hjortstam & Ryvarden 2007), Russia (Ghobad-Nejhad 2011), and southern Brazil.

Specimen examined — **BRAZIL. Rio Grande do Sul:** Guaíba, Morro São Maximiano, 09.XII.2003, leg. C. Rodrigues 1003 (ICN).

Remarks — *Dendrothele griseocana* was traditionally considered to be a variable species. However, Nakasone (2006) resolved this species complex and characterized *D. griseocana* mainly by the presence of hyphal pegs, simple septa, and basidia with 2 sterigmata, segregated from *D. americana* Nakasone and *D. tanzaniana* Nakasone by their clamped generative hyphae and basidia with 4 sterigmata.

Dendrothele griseocana was first reported for Rio Grande do Sul State by Rick (1959).

Dendrothele incrustans (P.A. Lemke) P.A. Lemke, Persoonia 3: 366, 1965. Plate 6

Basidiomata white, formed by confluent patches 2–5 mm wide each, 50–100 µm thick; adherent, with an indistinct margin.

Hyphal system monomitic; subiculum densely crystalline; generative hyphae clamped, irregular and thin-walled, 1–2 µm in diam. Cystidia lacking; dendrohyphidia 1–3 µm wide. Basidia clavate to suburniform, slightly swollen at the bases, 35–45 × 11–13 µm, with four sterigmata 11–13 µm long; basidiospores spherical, sometimes with guttulae, 9–12 µm in diam., apiculus often conspicuous, IKI–.

Distribution — Argentina, Guadeloupe, (Hjortstam & Ryvarden 2007), Canada, USA (Lemke 1964), Russia (Ghobad-Nejhad 2011), and southern Brazil.

Specimens examined — **BRAZIL. Rio Grande do Sul State:** Guaíba, Morro São Maximiano, on *Matayba elaeagnoides* (*Sapindaceae*), 18.III.2003, leg. C. Rodrigues 607 (ICN); 15.IX.2003, leg. C. Rodrigues 882; 15.IX.2003, leg. C. Rodrigues 894 (ICN).

Remarks — The diagnostic features of *D. incrustans* are the lack of cystidia and the large spherical basidiospores with prominent apiculi. Our specimens have basidiospores slightly larger than the 8–11 µm reported by Gilbertson & Blackwell (1987) and basidia larger than 25–30 × 8–11 µm as cited by Lemke (1964).

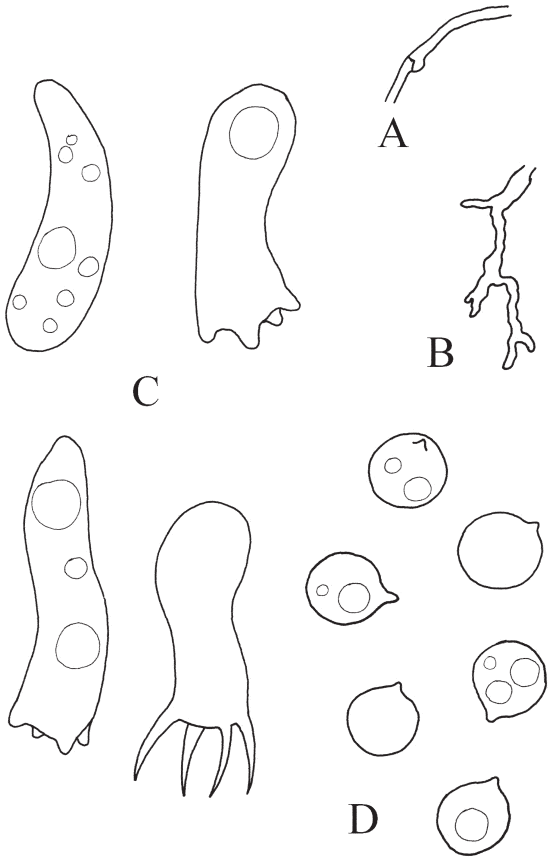

Plate 6. *Dendrothele incrustans.*
A: hypha. B: dendrohyphidium. C: basidia. D: basidiospores. Scale bar: 10 µm.

Dendrothele mangiferae Boidin & Duhem, Bull. Soc. Mycol. Fr. 112: 106, 1996.
Plate 7

Basidiomata white, occurring in irregular, rounded, small patches ca. 1 cm, 80–170 µm thick.

Hyphal system monomitic; generative hyphae 2–3 µm in diam., irregularly arranged, clamped. Dendrohyphidia thin, 1–2 µm wide, poorly branched, tips resembling a cauliflower. Basidia subcylindrical, containing oil droplets, 110–130 × 18 µm, with 45 µm long sterigmata, 25–30 × 5–6 µm, immature basidia multilayered by repetition; basidiospores spherical to subspherical 18–25 × 17–23 µm, sometimes with oil droplets and a distinctive apiculus, smooth in KOH and finely spiny in Melzer's solution, IKI–.

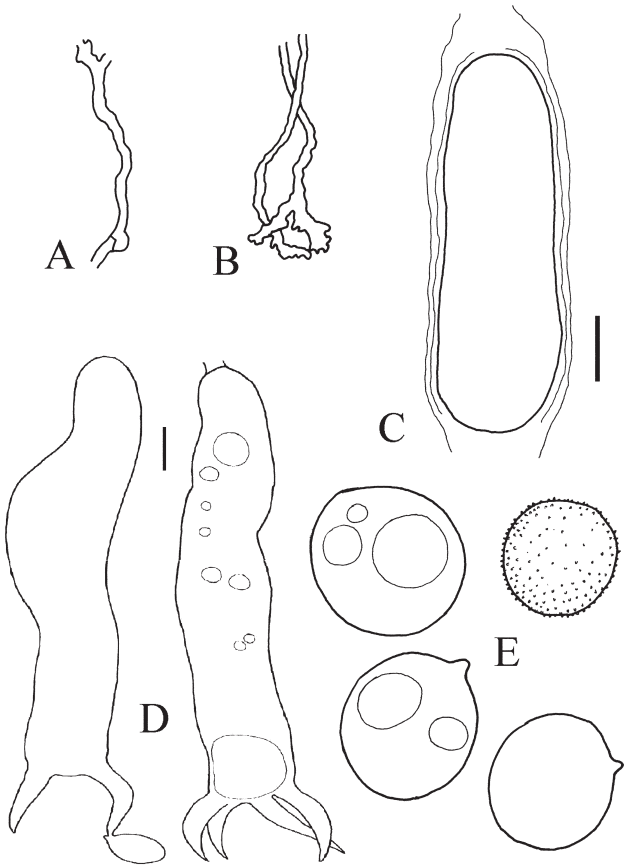

Plate 7. *Dendrothele mangiferae*.
A: hyphae. B: dendrohyphidia. C: young repetitive basidium. D: mature basidia.
E: basidiospores. Scale bars: 10 µm.

Distribution — Costa Rica (Gorjón 2012), Mauritius, Réunion (Boidin et al. 1996), and Southern Brazil.

Specimen examined — **BRAZIL. Rio Grande do Sul State:** Guaíba, Morro São Maximiano, on *Cedrela fissilis* (*Meliaceae*), 13.V.2003, leg. C. Rodrigues 791 (ICN).

Remarks — *Dendrothele mangiferae* has the largest basidia and basidiospores among the *Dendrothele* species discussed here. These features, which agree with the description by Boidin et al. (1996), make it easy to identify. Since its original description, *D. mangiferae* has been reported only from Costa Rica and now from southern Brazil.

Dendrothele syspora C.L.M. Rodrigues & Guerrero, **sp. nov.** PLATE 8

MYCOBANK MB 564699

Speciei Dendrothele magninavicularis *differt hyphae sine fibulae; dendrohyphida cum projecturis spinulosis; 2 sterigmatigmatis bisporatis; sporae primo conjugatis, in maturitatem secedentibunt.*

TYPE: Brazil. Rio Grande do Sul State: Viamão, Parque Estadual de Itapuã, Morro da Grota, on *Allophylus edulis* (A. St.-Hil.) Niederl. (*Sapindaceae*), 27.X.2003, leg. C. Rodrigues 924 (**Holotype,** ICN).

ETYMOLOGY: *sy* = pref. Gr., together, with, joined; *spora* = L., spore.

BASIDIOMATA in patches irregularly rounded, 3–7 mm wide, sometimes confluent, white to pale ochraceous, 100–150 µm in vertical section, texture chalky, cracking; MARGIN indistinct, often thinning out, pruinose.

HYPHAL SYSTEM: monomitic; GENERATIVE HYPHAE 2–3 µm in diam., simple-septate. CYSTIDIA lacking; DENDROHYPHIDIA with the last branches short and with spiny projections, 1.5–3 µm in diam. BASIDIA: irregularly cylindrical, 34–54 × 9–12 µm, enlarged at the basis, slightly sinuous, somewhat pinched at the middle, smooth, thin-walled, with 2 sterigmata 12–12 × 3–4 µm; BASIDIOSPORES navicular to lageniform, 17–24 × 7–8 µm, with a median constriction (4 × 5 µm wide), straight or curved, rarely with 1 or 2 drops, often none, smooth, thin-walled, apiculus in the broadest tip, IKI–.

DISTRIBUTION — Known from three localities in Rio Grande do Sul, southern Brazil.

ADDITIONAL SPECIMENS EXAMINED — **BRAZIL. RIO GRANDE DO SUL STATE:** Guaíba, Morro São Maximiano, on *Ocotea puberula* (*Lauraceae*), 09.XII.2003, leg. C. Rodrigues 998 (ICN); Sapucaia do Sul, Morro Sapucaia, 18.XI.2003, leg. C. Rodrigues 1015 (ICN); leg. C. Rodrigues 1025 (ICN); leg. C. Rodrigues 1031 (ICN); Viamão, Parque Estadual de Itapuã, Morro da Grota, on *Allophylus edulis*, 11.VI.2004, leg. C. Rodrigues 1081 (ICN); leg. C. Rodrigues 1098 (ICN).

REMARKS — This species presents the habit and substrate typical for *Dendrothele* species. The spores are larger than any other known species with median constriction in the genus (Nakasone & Burdsall 2011, Gorjón et al. 2011). Sterigmata and basidiospores, however, are rarely observed during their development. At first, sterigmata are born separately, but as they elongate, the tips grow toward each other and produce basidiospores that remain aligned together along their length. The spores are released together and remain joined for a short time before becoming separated. Basidiospore germination has not been observed.

Dendrothele syspora seems to belong to a recently described group of species with navicular basidiospores, including *D. cymbiformis* Nakasone & Burds., *D. magninavicularis* Nakasone & Burds., and *D. navicularis* Nakasone & Burds. from New Zealand (Nakasone & Burdsall 2011) and *D. latinavicularis* Gorjón from the Patagonian Andes forests of Argentina (Gorjón et al. 2011). *Dendrothele*

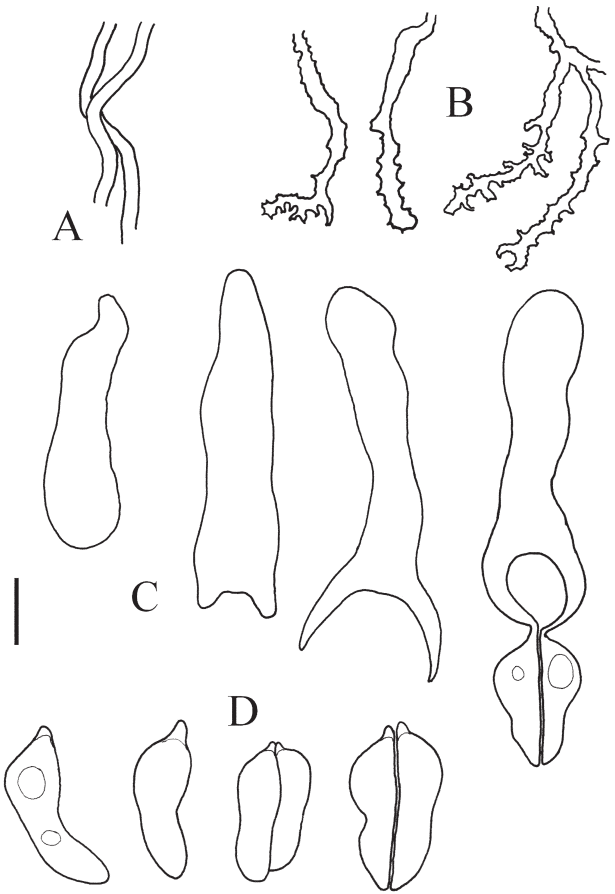

Plate 8. *Dendrothele syspora.*
A: hyphae. B: dendrohyphidia. C: basidia in different stages of development. D: basidiospores.
Scale bar: 10 μm.

latinavicularis differs from *D. syspora* by the shorter and wider basidiospores, which thus appear broadly navicular. Both *D. cymbiformis* and *D. navicularis* have smaller basidiospores, while *D. magninavicularis* basidiospores are almost the same size as those in *D. syspora*. Dendrohyphidia differ in these species: they are hyphoid in *D, cymbiformis* and *D. navicularis* but have short branches and spiny projections in *D. magninavicularis* and *D. syspora. Dendrothele syspora* is unique in this group by having simple septate generative hyphae and 2-sterigmate basidia.

Species of this group were found on different hosts: *D. latinavicularis* was always found in bark of living *Saxegothaea conspicua* Lindl., an endemic southern South American conifer (Gorjón et al. 2011); *D. cymbiformis* was reported from bark of living *Dracophyllum scoparium* Hook. f. and *D. magninavicularis* from bark of living *Melicytus ramiflorus* J.R. Forst. & G. Forst. [subsp. *ramiflorus*], both New Zealand endemic angiosperms. On the other hand, both *D. navicularis* and *D. syspora* were found in bark of several different living angiosperms native to their respective geographic regions.

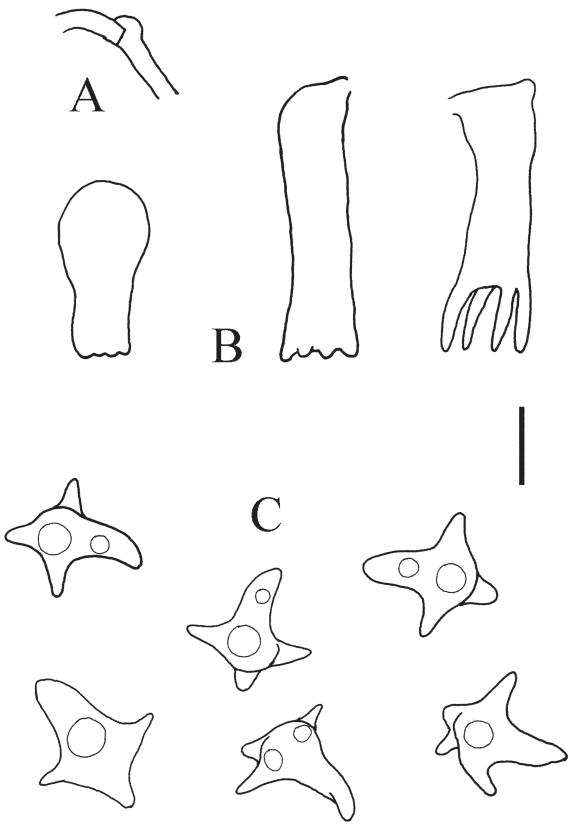

Plate 9. *Xenosperma murrillii*.
A: hypha. B: basidia. C: basidiospores. Scale bar: 10 μm.

Xenosperma murrillii Gilb. & M. Blackw., Mycotaxon 28: 400, 1987. Plate 9

Basidiomata in patches 0.3–1.0 mm wide, sometimes confluent, white to ochraceous, 70–150 μm thick, fragile, cracking, texture chalky; margin determinate, abrupt.

Hyphal system monomitic; generative hyphae clamped, 2–3 µm in diam., thin-walled. Cystidia and dendrohyphidia lacking. Basidia pleural, 30–40 × 9–10 µm, with a medium constriction, 4-sterigmate; basidiospores asteriform, 17–18(–21) × 14–18 µm, with 5 projections of which one is larger than the others and curved, 1-3-gutulate.

Distribution — USA (Gilbertson & Blackwell 1987) and southern Brazil.

Specimens examined — **BRAZIL. Rio Grande do Sul State:** Guaíba, Morro São Maximiano, on *Enterolobium contortisiliquum* (*Mimosaceae*), 15.VIII.2001, leg. C. Rodrigues 445 (ICN); 03.IX.2002, leg. C. Rodrigues 657 (ICN); Ipse, 13.V.2003, leg. C. Rodrigues 802 (ICN); Porto Alegre, Parque Farroupilha, VI.1994, leg. R. T. Guerrero (ICN 102261); on *Bauhinia forficata* (*Caesalpiniaceae*), VIII.1994, leg. R. T. Guerrero (ICN 102318); Salvador do Sul, on branch of unidentified angiosperm, 07.III.1982, leg. R. T. Guerrero (ICN 56138); Sapucaia do Sul, Morro Sapucaia, 17.IV.2003, leg. C. Rodrigues 746 (ICN); on *Allophylus edulis*, 12.VIII.2003, leg. C. Rodrigues 857 (ICN); Viamão, Parque Estadual de Itapuã, 20.X.1984, leg. R. T. Guerrero (ICN 56150).

Remarks — *Xenosperma murrillii* differs from *X. ludibundum* (D.P. Rogers & Liberta) Oberw. ex Jülich, which has 2-sterigmate basidia and smaller basidiospores (Oberwinkler 1965). *Xenosperma pravum* Boidin & Gilles differs by having 6-sterigmate basidia (Boidin & Gilles 1989).

Discussion

Although *Dendrothele* species are frequently reported from temperate regions (Lemke 1964, Eriksson & Ryvarden 1975, Greslebin & Rajchenberg 1998) where *Corticiaceae* s.l. has been intensively studied, they also occur in tropical and subtropical regions where their diversity is poorly known. Boidin et al. (1996) described *D. asterospora*, *D. capitulata,* and *D. mangiferae* for Mauritius, Réunion, Guadeloupe, and the Central African Republic. The materials treated in this study were collected in similar climatic regions.

Other species reported here are cited both for temperate and tropical/subtropical regions. While the broad northern temperate distribution of many wood-decaying species is well established (Gilbertson 1980), more studies are needed to determine their distribution in the tropics.

Another interesting aspect of this study is the discovery of several rarely reported species occurring on substrates different from those previously cited. This includes *X. murrillii*, known only from the bark of *Juniperus virginiana* L. in the type locality. Investigation of fungi on fast-drying juniper bark, revealed that some species also grew on hardwood trees (Gilbertson & Blackwell 1987). Perhaps, host distributions are more variable in other regions where these fungi occur. The distinctive fast-drying habitat in which these fungi occur will facilitate their collection and improve their knowledge regarding distribution and host range.

Acknowledgments

The authors thank the pre-submission reviewers, Dr. Mario Rajchenberg (Centro Forestal CIEFAP, Argentina) and Dr. Sergio Pérez Gorjón (Spain). We also thank Nhu H. Nguyen for correcting the Latin diagnosis. The 'Coordenação de Aperfeiçoamento de Pessoal de Nível Superior" (CAPES) provided financial support.

Literature cited

Bernicchia A, Gorjón SP. 2010. *Corticiaceae* s.l. Fungi Europaei vol. 12. Edizioni Candusso, Italia.

Boidin J, Gilles G. 1989. *Basidiomycetes Aphyllophorales* de l'Ile de la Réunion XV. Famille des *Xenasmataceae* Oberw. Bull. Soc. Mycol. Fr. 105: 151–162.

Boidin J, Lanquetin, P, Duhem B. 1996. Contribution a la connaissance du genre *Dendrothele* (*Basidiomycotina*, *Aphyllophorales*). Bull. Soc. Mycol. Fr. 112: 87–126.

Burdsall Jr HH, Nakasone KK. 1983. Species of effused *Aphyllophorales* (*Basidiomycotina*) from the southeastern United States. Mycotaxon 17: 253–268.

Eriksson J, Ryvarden L. 1975. The *Corticiaceae* of North Europe. Vol. 3. Oslo, Fungiflora.

Ghobad-Nejhad M. 2011. Updated checklist of corticioid and poroid basidiomycetes of the Caucasus region. Mycotaxon 117: 508 (abstract) + 70 pp. (accessioned 05/03/12) at http://www.myco-lich.com/mycology-of-iran/basidiomycota/caucasus-region/checklists

Gilbertson RL. 1980. Wood-rotting fungi of North America. Mycologia 72: 1–49. http://dx.doi.org/10.2307/3759417

Gilbertson RL, Blackwell M. 1987. Notes on wood-rotting fungi on junipers in the Gulf Coast region. II. Mycotaxon 28: 369–402.

Gorjón SP. 2012. First record of *Dendrothele mangiferae* (*Agaricales*, *Basidiomycota*) from the Neotropics. Mycotaxon 119: 137–140. http://dx.doi.org/10.5248/119.137

Gorjón SP, Greslebin A, Rajchenberg M. 2011. *Dendrothele latenavicularis* sp. nov. (*Agaricales*, *Basidiomycota*) from the Patagonian Andes. Mycotaxon 117: 101–108. http://dx.doi.org/10.5248/117.101

Greslebin A, Rajchenberg M. 1998. Corticioid *Aphyllophorales* (*Basidiomycota*) from the Patagonian Andes Forests of Argentina 3. The genus *Dendrothele*. Mycotaxon 67: 469–486.

Hjortstam K, Ryvarden L. 1980. Studies in tropical *Corticiaceae* (*Basidiomycetes*) I. Mycotaxon 10: 269–287.

Hjortstam K, Ryvarden L. 1982. Studies in tropical *Corticiaceae* (*Basidiomycetes*) IV. Type studies of taxa described by J. Rick. Mycotaxon 15: 261–276.

Hjortstam K, Ryvarden L. 2007. Checklist of corticioid fungi (*Basidiomycotina*) from the tropics, subtropics, and the southern hemisphere. Syn Fungorum 22: 27–146.

Larsson K-H. 2007. Re-thinking the classification of corticioid fungi. Mycol Res 111: 1040–1063. http://dx.doi.org/10.1016/j.mycres.2007.08.001

Lemke PA. 1964. The genus *Aleurodiscus* (sensu lato) in North America. Can. J. Bot. 42: 723–766. http://dx.doi.org/10.1139/b64-066

Maluf RW, Guerrero RT. 1993. Estudo biossistemático de espécies da família *Peniophoraceae* (*Basidiomycetes*) no Rio Grande do Sul. Insula (22): 39-82.

Nakasone KK, Burdsall Jr HH. 2011. The genus *Dendrothele* (*Agaricales*, *Basidiomycota*) in New Zealand. New Zealand J. Bot. 49: 107–131. http://dx.doi.org/10.1080/0028825X.2010.512636

Nakasone KK, Hibbett DS, Goranova G. 2009. *Neocampanella*, a new corticioid fungal genus, and a note on *Dendrothele bispora*. Botany 87: 875–882. http://dx.doi.org/10.1139/B09-046

Nietiedt SA, Guerrero RT. 2000. Família *Corticiaceae* (s.l.) – Novas citações para o Brasil. Iheringia, Bot. 54: 45–56.

Oberwinkler F. 1965. Primitive Basidiomyceten: revision einiger Formenkreise von Basidienpilzen mit plastischer Basidie. Sydowia 19: 1–93.

Rajchenberg M. 1987. Type studies of *Polyporaceae* (*Aphyllophorales*) described by J. Rick. Nordic J. Bot. 7: 553–568. http://dx.doi.org/10.1111/j.1756-1051.1987.tb02023.x

Rick J. 1959. *Basidiomycetes* Eubasidii in Rio Grande do Sul – Brasilia 3. *Thelephoraceae*. Iheringia, Bot. 4: 61–124.

Sobestiansky, G. 2005. Contribution to a macromycete survey of the states of Rio Grande do Sul and Santa Catarina in Brazil. Braz. Arch. Biol. Technol. 48(3): 437-457.

Wu SH, Wang DM, Tschen E. 2007. *Brunneocorticium pyriforme*, a new corticioid fungal genus and species belonging to the euagarics clade. Mycologia 99: 302–309. http://dx.doi.org/10.3852/mycologia.99.2.302